

# Water Quality Keeping Your Water Treated, Tested, Safe





We are Water











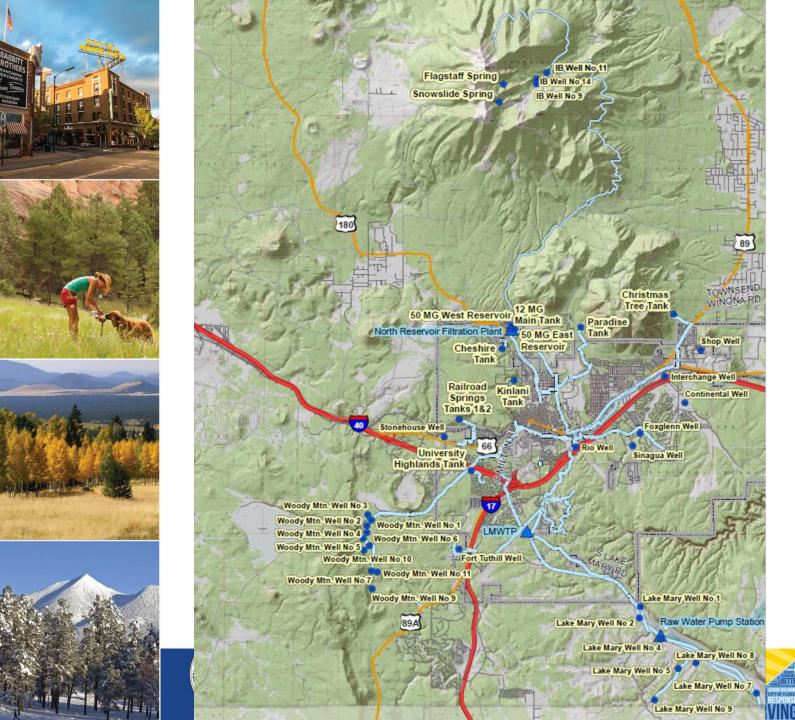


# Where Does Our Water Come From?

- Two Sources
  - Surface Water
  - Groundwater









#### **Surface Water**



Lake Mary

Inner Basin



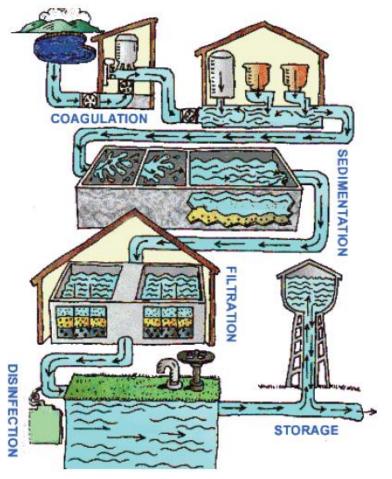








# Lake Mary



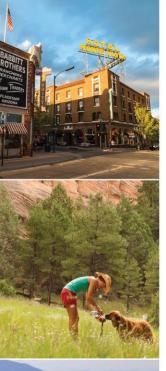






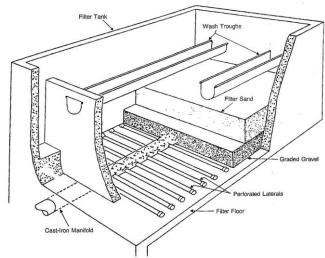
**TEAM FLAGSTAFF** 

















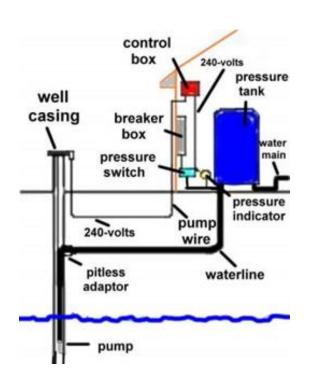


**TEAM FLAGSTAFF** 





**Ground Water** 





Lake Mary and Woody Mountain Wellfields







### **Ground Water**

We have Seven Local Wells







**TEAM FLAGSTAFF** 





# HOW WATER GETS TO OUR CUSTOMERS

Distribution System

 Water from all these sources enters at different points





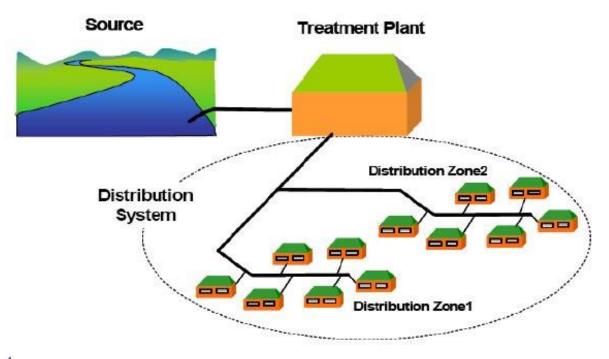
WATER SERVICES



## 2017 Water Deliveries

- GROUNDWATER
- SURFACE WATER

5,921 AF 73% 1,776 AF 27%











# **CONTROLS**











#### PLANS IN PLACE

- Emergency Operation Plan
- Backflow Prevention









#### **EMERGENCY PLAN**



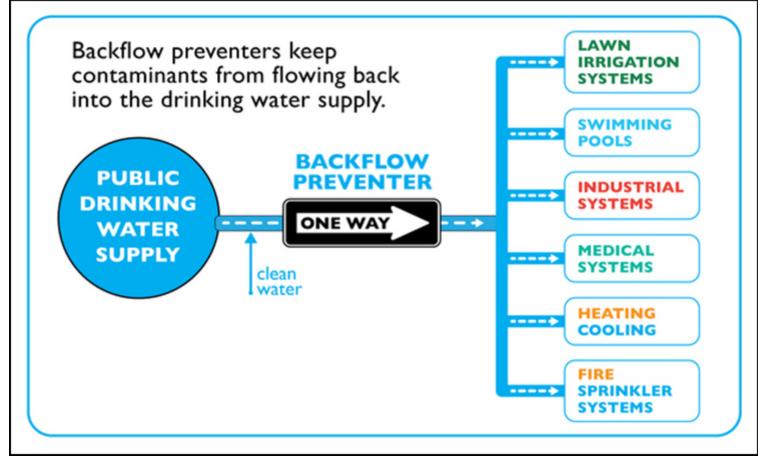
- Loss of Source
- Component Failure
- Loss of Power
- Contamination
- Collapse of reservoir
- Line Break







#### **BACKFLOW PREVENTION**











## **TESTING**

- Surface Water
- All Sources
- Distribution System





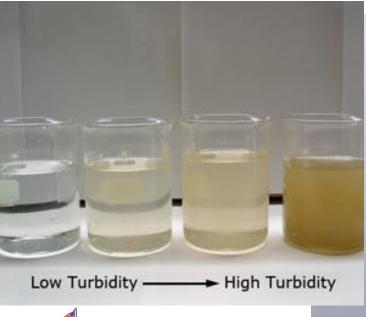






#### **TESTING - Surface Water**

Cryptosporidium – Lake Mary/IB Guardia – Lake Mary/IB Turbidity – Treated Water Chlorine Residual – Treated Water











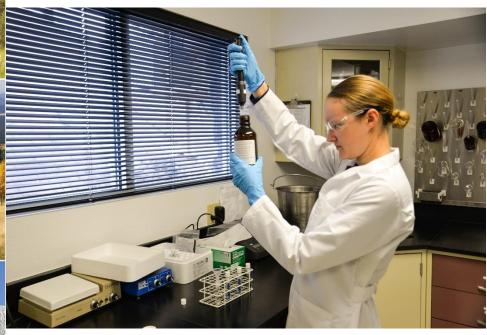


# **TESTING - Inorganics**

Inorganics, such as arsenic and nitrate

Radiochemicals, such as uranium and radium

Inorganics are naturally occurring in the environment











# **TESTING - Organics**

Organics, such as pesticides, solvents, fuels

Flagstaff Water Services has not had detections of organics in water samples from the water system









### **TESTING - Total Coliform**

Total coliforms are a group of related bacteria that are (with few exceptions) not harmful to humans. EPA considers total coliforms a useful indicator of other pathogens for drinking water. Total coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system.

80 Monthly Tests – Population of 70,000 to 80,000











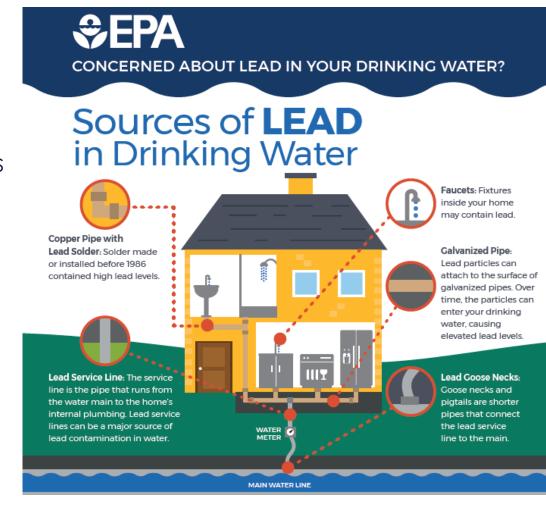
# TESTING - Lead and Copper

Lead and Copper

Lead does not originate in the source water. It leaches from pipes and plumbing systems.

Collected in homes primarily constructed in 1980s

Always well below any action levels







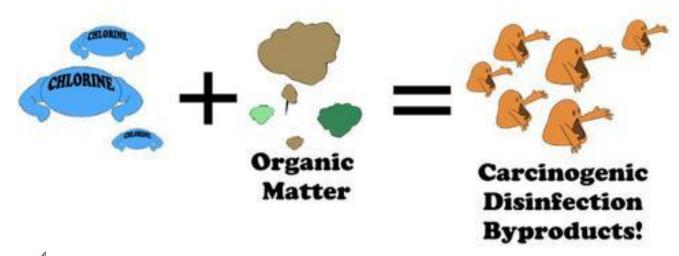




#### TESTING - DBP

Disinfection Byproducts

Chlorine, used as a disinfectant, reacts with organic matter in the water system and forms byproducts









#### Other Parameters

Secondary Standards (Unregulated)

Manganese

Hardness

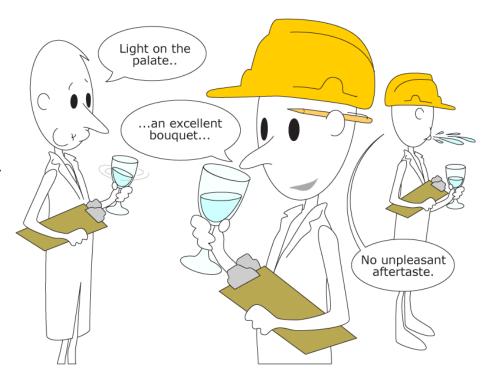
Color

Odor

Iron

Corrosivity

Unregulated Taste

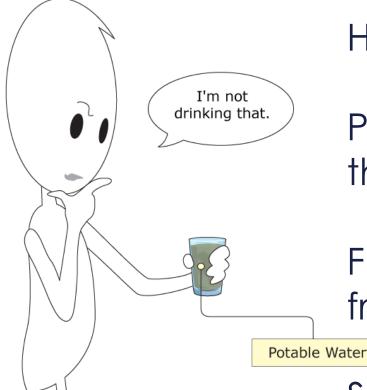








# Why is Our Water Better?



Hardness

Phoenix is higher than 500 mg/L

Flagstaff ranges from 25 to 325 mg/L

Secondary standard is 500 mg/L



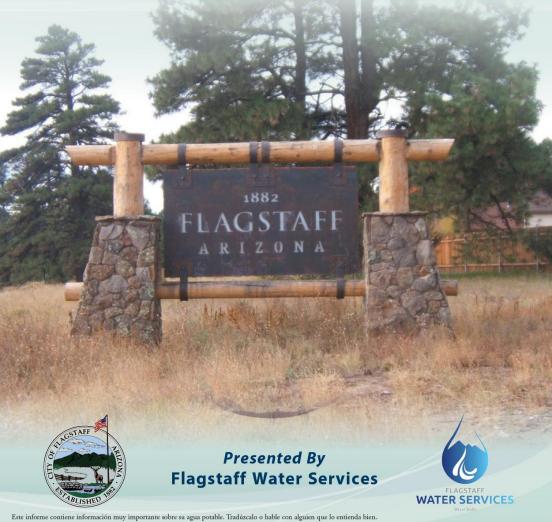








WATER TESTING PERFORMED IN 2017





# Flagstaff Water Services Team















#### **QUESTIONS?**

Steve Camp
Regulatory Compliance Section Manager
Water Services Division
City of Flagstaff
211 West Aspen Avenue
Flagstaff, AZ 86001
Office (928) 213-2475
Cell (928) 853-8643







